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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 9

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THE EGYPTIAN METEOROLOGICAL AUTHORITY  
CAIRO

# **National Oceanic and Atmospheric Administration**

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## **PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO**

In fulfilment of its duties, the Egyptian Meteorological Authority issues several reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

### **THE DAILY WEATHER REPORT**

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

### **THE MONTHLY WEATHER REPORT**

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

### **THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT**

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

### **THE ANNUAL REPORT**

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

### **CLIMATOLOGICAL NORMALS FOR EGYPT**

A voluminous edition was issued in March 1968 which brings normals and mean values up to 1960.

### **METEOROLOGICAL RESEARCH BULLETIN**

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

### **TECHNICAL NOTES**

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.



THE ARAB REPUBLIC OF EGYPT

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THE EGYPTIAN METEOROLOGICAL AUTHORITY  
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# CONTENTS

	PAGE
General Summary of Weather Conditions . . . . .	1,3

## SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration and Piche Evaporation . . . . .	4
„ A2.—Maximum and Minimum Air Temperatures . . . . .	5
„ A3.—Sky Cover and Rainfall . . . . .	6
„ A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . . .	7
„ A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded within Specified Ranges . . . . .	8,9

## UPPER AIR DATA

Table B1.—Monthly Means and Monthly Absolute Higher & Lower Values of Altitude, air Temperature & Dew point at Standard and Selected Pressure Surface . . . . .	10,11
„ B2.—Mean and Extreme values of The Freezing Level and The Tropopause; The Highest Wind Speed in The Upper Air . . . . .	21
„ B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces . . . . .	13-14

## AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations . . . . .	15-16
Table C1.—Air Temperature at 2 metres above Ground . . . . .	17
„ C2.—Absolute Values of Air Temperature at 2 Metres Above Ground, Absolute Minimum Air Temperature at 5 cms above Ground Over Different Fields. . . . .	17
„ C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 2 metres above Ground, Evaporation and Rainfall. . . . .	17
„ C4.—Extreme Soil Temperature at Different Depths in Different Fields. . . . .	18
„ C5.—Surface wind . . . . .	18

Note : For explanatory notes on the tables please refer to Volume 9, Number 1 (January 1963).

# GENERAL SUMMARY OF WEATHER CONDITIONS

OCTOBER 1966

Generally mild in the northern parts, rather hot in the central parts and hot in the southern parts, intervened with four variant heat waves. Heavy rain associated with thundery activity over scattered localities in the northern parts between the 23rd and 25th. Frequent early morning mist and fog over Delta, Canal and Cairo areas.

## GENERAL DESCRIPTION OF WEATHER

The prevailing weather most days of this month was mild in the northern parts, rather hot in the central parts and hot in the southern parts. The month was intervened with four heat waves of weak intensity and short durations in the northern parts, and of moderate intensity and duration in the central and southern parts. The heat waves reached their peaks round the 5th, 10th, 20th & 31st and their break-downs were followed by mild periods during which light rain in general fell over few scattered localities of the northern coast. During the period between the 23rd & 25th in particular rain extended southwards to Lower Egypt & Cairo, and was heavy and associated with thunderstorms over scattered places. It is worthy of mention that the daily rainfall at Dekheila on the 23rd (32mms) is a record for October. Early morning mist & fog developed frequently over scattered places in Delta, Canal & Cairo areas.

## PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution on the surface maps during this month were :

- Siberian anticyclone.
- Travelling deep low pressure systems from the Atlantic through North Urasia.
- Secondary depressions originating either over north of Italy & the Balkans, or over west Mediterranean.
- Complex thermal low pressure over North Sudan & North Arabia.

The barometric pressure in Egypt during this month showed five oscillations and experienced consecutive falls round the periods (1st — 3rd), (5th — 8th), (10th — 17th), (19th — 20th) & (30th — 31st).

During the first period a secondary low developed over Tunisia on the 1st, proceeded eastwards and traversed the western coast of Egypt on the 3rd ; then it filled up the next day.

During the second period, a secondary depression developed over West Mediterranean on the 5th and was associated with a desert secondary over North Algiers. These two secondaries proceeded eastwards. On the 8th the desert secondary filled up over east of the Libyan Desert, while the Mediterranean secondary filled up the next day over central Mediterranean. It is noteworthy

that the pressure fall during this period was slight; and the barometric pressure in Egypt remained above normal from the 4th till the 10th when the Siberian anticyclone SW ridge extended to East Mediterranean.

During the third period the thermal trough over North Sudan & North Arabia elongated towards SE Mediterranean and deepened two times due to the transit of two secondary depressions through the Caspian Sea area on the 12th & 16th.

During the fourth period, a shallow secondary developed over the western coast of Egypt on the 19th as a secondary for a depression over Greece. These two depressions moved eastwards and filled up the next day.

The thermal trough over North Sudan & North Arabia persisted elongating through East Mediterranean from the 21st till the 25th when the barometric pressure in Egypt showed small variability.

A local anticyclone established over East Mediterranean & the Western Desert during the period (26th — 29th) and the barometric pressure over Egypt was above its normal.

During the last period (30th — 31st), the pressure fall was due to the approach of a complex low pressure system covering Italy, the Balkans & Central Mediterranean which was associated with a desert secondary near the Gulf of Cyrenica.

The most outstanding features of pressure distributions on the 700 & 500 m.b. levels were :

— A deep low pressure system over North Russia, elongating on some days (five days) SW wards to Asia Minor & East Mediterranean.

— A deep low pressure system over North Atlantic.

— Secondary upper troughs or lows moving through middle latitudes the most active of which was the upper low which developed over east Mediterranean between the 23rd & the 25th.

— An upper high pressure belt south latitude 30°N.

The highest wind speed in the upper air at Mersa Matruh, Helwan, & Aswan was 96, 142 & 102 Knots on the 23rd, 23rd & 26th respectively.

#### **SURFACE WIND**

Light to moderate Nly and NWly winds prevailed most days of this month in the majority of districts of the Republic.

Fresh and strong winds were reported for many days of the month in scattered localities of the Red Sea district, and for few days in other few localities. On the other hand, winds dropped to calms most of night & early morning intervals in scattered localities.

#### **TEMPERATURE**

During this month four heat waves prevailed and were rather weak & of short durations in the northern parts and of moderate intensity & duration elsewhere. The break downs of these heat waves was followed by mild periods. Maximum temperature in general ranged between 26°C & 30°C in the northern parts, between 29°C & 34°C in the central parts and between 35° & 40°C in the southern parts.

The absolute maximum temperature for the Republic was 42.5°C reported at Aswan on the 5th.

The lowest maximum temperature for the Republic was 24.4°C reported at Port Said on the 24th.

Minimum temperature showed less variability than maximum temperature ; and was in general slightly above normal in the northern & central parts and slightly below normal in the southern parts. Minimum temperature in general ranged between 16°C & 20°C in most parts of the Republic.

The absolute minimum temperature for the Republic was 12.1°C reported at Dakhla on the 30th.

The highest minimum temperature was 26.3 °C reported at Abul Kizan on the 7th.

#### **PRECIPITATION**

Rain was reported on the 11th, between the 16th & 18th and between the 21st & 25th. During the first and second periods, rain was light and confined to few localities in the northern coast. During the last period widespread rain extended southwards to Lower Egypt & Cairo, and was heavy & associated with thunderstorms over scattered localities mainly between the 23rd & 25th. The daily rainfall over Dekheila attained a record on the 23rd (32 mms.)

The absolute daily rainfall was 33.0 mms reported at Rosetta on the 23rd which was also the absolute monthly total rainfall.

*Cairo, December 1971*

**Chairman (M. F. TAHA)**

***Board of Directors***



**TABLE A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE,  
RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION**

**OCTOBER — 1966**

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mm. Mean		
			Maximum		Minimum				Dry Bulb		Wet Bulb							
	Mean	D.F Normal or Average	(A) Mean	D.F Normal or Average	(B) Mean	D.F Normal or Average	A+B 2	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Total Actual	Total Possible		%	
Sallum . . . . .	1015.7	-0.5	29.0	+1.6	20.1	+2.2	24.6	24.1	+1.5	19.8	+1.6	66	+2	—	—	—	6.4	
Mersa Matruh (A)	1015.6	-0.8	28.6	+1.6	18.1	+1.3	23.4	23.1	+1.4	19.3	+1.5	68	+2	—	—	—	8.5	
Alexandria . (A)	1015.1	-0.7	28.2	+0.4	18.2	+0.5	23.2	23.5	+0.8	20.0	+1.2	71	+3	313.1	354.2	88	5.4	
Port Said . . (A)	1014.3	-0.8	27.1	-0.2	23.5	+1.7	25.3	25.2	+1.1	21.3	+1.0	69	0	298.3	354.2	84	7.3	
El Arish . . . .	1014.3	-0.8	28.5	0.0	18.9	+0.9	23.7	24.0	+0.1	20.7	+0.6	73	0	—	—	—	4.5	
Ghazala . . . . .	1014.0	-0.8	28.0	+1.1	19.0	+1.3	23.5	23.6	+1.1	20.1	+0.5	72	-3	289.4	353.6	82	4.8	
Tanta . . . . .	1013.9	-1.0	31.2	+1.1	17.5	+2.0	24.4	23.5	+1.4	19.8	+1.8	70	+5	303.4	354.5	86	5.1	
Cairo . . . . . (A)	1014.3	-0.9	31.3	+0.4	18.6	+0.8	25.0	24.5	+1.0	19.0	+0.8	57	-1	—	—	—	13.8	
Fayoum . . . . .	1014.0	-0.4	33.0	+1.6	18.0	+0.7	25.5	24.9	+0.8	19.3	+1.3	57	+5	—	—	—	5.9	
Minya . . . . . (A)	1013.1	-1.1	32.9	+1.5	16.2	+0.6	24.6	24.1	+0.9	17.0	-0.5	46	-9	324.2	356.8	91	10.2	
Assiout . . . . . (A)	1012.4	-1.2	34.1	+3.0	18.5	+0.5	26.3	25.8	+1.4	17.2	-0.1	39	-7	—	—	—	15.4	
Luxor . . . . . (A)	1011.1	-0.7	35.6	+0.5	18.8	+1.2	27.2	27.1	+2.2	18.4	+0.5	40	+1	—	—	—	10.7	
Aswan . . . . . (A)	1010.4	-0.8	36.8	-0.1	20.3	+0.9	28.6	28.5	+0.3	16.6	+0.8	24	+4	—	—	—	16.7	
Siwa . . . . .	1014.9	-1.1	33.0	+1.4	17.4	+2.5	25.2	25.1	+2.0	17.4	+1.4	43	-1	—	—	—	10.2	
Bahariya . . . . .	1013.8	-0.7	33.2	+2.1	18.0	+2.0	25.6	25.6	+1.8	17.9	+1.3	39	-10	—	—	—	8.7	
Farafra . . . . .	1015.3	-0.9	32.2	+0.9	16.5	+1.1	24.4	24.2	+1.0	17.1	+2.3	36	+10	—	—	—	14.2	
Dakhla . . . . .	1013.1	+0.2	34.2	+2.0	18.2	+1.1	26.2	26.1	+1.4	16.3	+1.2	32	+2	—	—	—	17.6	
Kharga . . . . .	1011.8	-0.9	34.9	+0.8	20.9	+2.5	27.9	28.0	+2.3	16.8	+0.6	31	-2	335.6	359.0	93	24.2	
Tor . . . . .	1011.9	-0.4	29.9	+0.3	20.0	+1.4	25.0	25.5	+1.1	20.4	+1.0	61	+1	—	—	—	11.0	
Hurgada . . . . .	1011.3	-0.8	30.4	+1.6	20.3	+0.5	25.4	25.6	+0.7	19.5	+0.3	54	-2	—	—	—	14.6	
Quesir . . . . .	1012.1	-0.1	29.7	-0.4	22.7	-0.1	26.2	26.3	+0.4	20.3	+0.7	56	+3	—	—	—	14.1	

Table A 2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

OCTOBER — 1966

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum . . . . .	35.0	2	24.8	22	30	9	0	0	0	19.8	—	23.9	3	17.0	29	0	0	0	0
Meras Matruh . . . . .	(A) 34.6	3	26.0	23, 25, 31	31	7	0	0	0	—	—	22.2	12	14.4	29	0	0	0	0
Alexandria . . . . .	(A) 33.0	4	26.5	24	31	7	0	0	0	—	—	23.0	12	15.5	3, 18	0	0	0	0
Port Said . . . . .	(A) 28.9	4	24.4	24	30	0	0	0	0	21.6	—	25.9	4	19.0	26	0	0	0	0
El Arish . . . . .	30.4	5, 6	26.3	25	31	2	0	0	0	17.5	—	23.3	29	16.0	22	0	0	0	0
Ghazza . . . . .	30.0	4, 5	25.9	25	31	0	0	0	0	18.6	—	21.0	3, 5	16.9	26	0	0	0	0
Tanta . . . . .	35.2	4	27.5	24	31	23	1	0	0	—	—	19.8	12	15.4	3	0	0	0	0
Cairo . . . . .	(A) 34.1	5	27.5	24	31	23	0	0	0	—	—	20.8	12	16.6	14	0	0	0	0
Fayoum . . . . .	36.5	5	28.4	24	31	27	7	0	0	16.4	—	20.1	12	14.9	25	0	0	0	0
Minya . . . . .	(A) 36.7	20	28.3	25	31	27	9	0	0	14.7	—	18.7	31	13.2	18	0	0	0	0
Assyout . . . . .	(A) 37.6	5	28.8	25	31	28	12	0	0	16.8	—	20.7	5	15.7	27	0	0	0	0
Luxor . . . . .	(A) 39.8	7	30.8	25	31	31	17	0	0	13.7	—	22.5	8	13.8	28	0	0	0	0
Aswan . . . . .	(A) 42.5	5	31.2	25	31	31	23	3	0	—	—	24.8	17	16.4	27	0	0	0	0
Siwa . . . . .	39.3	7	28.1	25	31	25	9	0	0	15.7	—	21.8	3	12.3	28	0	0	0	0
Bahariya . . . . .	36.9	11, 19	28.5	24	31	26	10	0	0	16.4	—	21.0	12	14.1	27	0	0	0	0
Farafra . . . . .	36.4	11	28.1	24	31	24	6	0	0	15.9	—	20.0	7	12.4	27	0	0	0	0
Dakhla . . . . .	39.4	5, 7	28.5	25	31	28	11	0	0	—	—	24.9	6	12.1	30	0	0	0	0
Kharga . . . . .	39.2	5	29.2	25	31	30	14	0	0	19.3	—	26.0	8	14.8	25	0	0	0	0
Tor . . . . .	33.3	11	27.0	25	31	12	0	0	0	—	—	24.6	8	16.9	19	0	0	0	0
Hurghada . . . . .	35.4	11	28.2	27	31	18	1	0	0	18.3	—	22.9	8	17.7	21	0	0	0	0
Quseir . . . . .	31.7	7	28.0	13	31	9	0	0	0	21.1	—	26.2	12	20.2	18	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

OCTOBER — 1966

Station	Mean Sky Cover Oct					Rainfall mm										
	00	06	12	18	Daily	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain						
	U.T.	U.T.	U.T.	U.T.	Mean			Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum . . . . .	0.9	2.6	2.0	1.4	1.6	24.9	+ 7.8	21.8	21	1	4	2	1	1	0	0
Mersa Matruh . . . . . (A)	0.8	2.1	2.5	1.2	1.7	6.0	—10.2	6.0	23	0	1	1	1	0	0	0
Alexandria . . . . . (A)	1.9	2.5	2.3	1.6	2.0	6.0	— 3.2	6.0	23	0	1	1	1	0	0	0
Port Said . . . . . (A)	1.0	1.6	1.5	1.0	1.2	9.5	+ 2.5	9.3	25	0	3	1	1	0	0	0
El Arish . . . . .	2.0	2.2	2.0	1.9	2.1	2.9	— 3.1	1.7	12	0	4	1	0	0	0	0
Ghazza . . . . .	1.5	2.2	2.4	1.5	1.8	1.1	—14.7	1.1	24	1	1	1	0	0	0	0
Tanta . . . . .	0.4	0.8	2.0	0.4	1.0	0.0	— 4.4	0.0	—	0	0	0	0	0	0	0
Cairo . . . . . (A)	1.0	2.3	2.6	0.8	1.7	Tr.	— 0.8	Tr.	23	1	0	0	0	0	0	0
Fayoum . . . . .	—	0.9	1.4	0.5	—	0.0	— 0.9	0.0	—	0	0	0	0	0	0	0
Minya . . . . . (A)	0.0	0.6	0.9	0.2	0.4	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Assyout . . . . . (A)	0.0	0.1	0.5	0.2	0.2	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.3	0.4	0.6	0.6	0.5	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan . . . . . (A)	0.7	0.6	0.9	0.9	0.8	Tr.	0.0	Tr.	6	1	0	0	0	0	0	0
Siwa . . . . .	0.2	0.8	1.5	1.0	0.9	0.4	+ 0.1	0.4	2	0	1	0	0	0	0	0
Bahariya . . . . .	0.2	0.3	1.2	0.8	0.8	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Farafra . . . . .	—	0.1	0.8	0.1	—	0.0	— 1.0	0.0	—	0	0	0	0	0	0	0
Dakhla . . . . .	0.1	0.1	0.5	0.2	0.3	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Kharga . . . . .	0.2	0.2	0.4	0.2	2.0	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Tor . . . . .	0.4	0.8	1.1	0.5	0.7	0.0	— 0.7	0.0	—	0	0	0	0	0	0	0
Hurghada . . . . .	0.2	0.6	0.3	0.3	0.4	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Quesir . . . . .	0.5	0.6	0.9	0.5	0.5	0.0	— 0.5	0.0	—	0	0	0	0	0	0	0

**OCTOBER — 1966**

[illegible]

**Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE  
WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**OCTOBER — 1966**

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated													All directions
					345	015	045	075	105	135	165	195	225	255	265	315		
					/	/	/	/	/	/	/	/	/	/	/	/		
					014	044	074	104	134	164	194	224	254	284	314	344		
Sallum . . . . .	72	5	0	1-10	68	79	71	77	26	7	15	16	24	39	54	68	544	
				11-27	23	2	4	2	0	0	1	4	9	8	40	30	123	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	91	81	75	79	26	7	16	20	33	47	94	98	667	
Mersa Matruh . . (A)	66	0	0	1-10	84	75	56	39	22	33	25	39	36	55	22	44	530	
				11-27	54	13	20	1	7	6	5	12	9	4	0	16	147	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	1	0	0	0	0	0	0	0	0	1	
				All speeds	138	88	76	41	29	39	30	51	45	59	22	60	678	
Alexandria . . . . (A)	26	0	0	1-10	150	143	69	33	39	18	21	28	5	5	25	131	607	
				11-27	10	27	1	0	0	0	0	0	1	0	1	11	51	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	160	170	70	33	39	18	21	28	6	5	26	142	718	
Port Said . . . . . (A)	5	0	5	1-10	191	72	54	10	6	9	11	4	8	34	27	44	470	
				11-27	107	66	35	0	0	0	0	1	2	3	3	47	264	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	298	138	89	10	6	9	11	5	10	37	30	91	734	
Tanta . . . . .	102	0	7	1-10	48	129	131	100	39	13	1	1	3	29	45	94	633	
				11-27	0	0	0	2	0	0	0	0	0	0	0	0	2	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	48	129	131	102	39	13	1	1	3	29	45	94	635	
Cairo . . . . . (A)	52	0	364	1-10	31	69	33	43	2	2	0	6	4	9	8	28	235	
				11-27	16	44	15	8	0	0	0	0	0	0	0	10	93	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	47	113	48	51	2	2	0	6	4	9	8	38	328	
Fayoum . . . . .	32	3	8	1-10	305	232	23	1	0	0	0	4	11	4	9	70	659	
				11-27	7	31	4	0	0	0	0	0	0	0	0	0	42	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	312	263	27	1	0	0	0	4	11	4	9	70	701	
Minya . . . . . (A)	2	90	0	1-10	224	12	1	0	0	3	0	0	0	3	5	237	485	
				11-27	79	4	0	0	0	0	0	0	0	0	0	84	167	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	303	16	1	0	0	3	0	0	0	3	5	321	652	

**Table A 5 (contd.)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE  
WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**OCTOBER — 1966**

Station	calm (hours)	variable (hours)	unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of direction indicated													All directions
					345 / 23 014	015 / / 044	045 / / 071	075 / / 104	105 / / 134	135 / / 164	165 / / 194	195 / / 224	225 / / 254	255 / / 284	285 / / 314	315 / / 344		
Assyout. . . . . (A)	0	0	30	1-10	5	4	5	5	2	0	0	0	73	258	133	107	592	
				11-27	20	11	0	0	0	0	0	0	1	2	26	62	122	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	25	15	5	5	2	0	0	0	74	260	159	169	714	
Luxor . . . . . (A)	2	0	0	1-10	104	67	53	36	26	47	96	44	16	36	67	146	738	
				11-27	0	1	2	0	0	0	0	0	0	0	0	0	3	
				28-47	0	0	1	0	0	0	0	0	0	0	0	0	1	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	104	68	56	36	26	47	96	44	16	36	67	146	742	
Aswan . . . . . (A)	0	0	2	1-10	249	256	15	6	18	2	4	5	3	12	7	53	630	
				11-27	61	44	0	0	0	1	0	0	0	0	1	5	112	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	310	300	15	6	18	3	4	5	3	12	8	58	742	
Siwa . . . . .	39	02	0	1-10	42	40	76	91	58	40	20	34	20	73	80	45	629	
				11-27	0	3	0	0	0	0	0	0	0	0	2	9	14	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	42	43	76	91	58	40	20	34	20	73	82	54	643	
Dakhla . . . . .	0	6	165	1-10	27	47	31	16	14	17	22	18	31	79	83	104	489	
				11-27	0	55	7	0	0	0	0	0	0	0	1	21	84	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	27	102	38	16	14	17	22	18	31	79	84	125	573	
Kharga . . . . .	0	6	39	1-10	193	72	17	4	0	0	0	2	4	2	8	79	381	
				11-27	244	44	0	0	0	0	0	0	0	0	0	30	318	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 18	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	437	116	17	4	0	0	0	2	4	2	8	109	699	
Hurghada . . . . .	10	0	1	1-10	16	21	12	7	7	12	3	3	2	1	79	43	266	
				11-27	151	26	3	0	1	0	0	1	0	11	154	177	524	
				28-47	0	0	0	0	0	0	0	0	0	0	0	3	3	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	167	47	15	7	8	12	3	4	2	12	233	233	733	
Quesir . . . . .	4	12	0	1-10	65	17	6	4	4	6	4	1	3	59	182	87	438	
				11-27	84	16	0	0	0	0	0	0	0	0	36	154	290	
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	149	33	6	4	4	6	4	1	3	59	218	241	728	

# UPPER AIR CLIMATOLOGICAL DATA

**Table B 1. — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

OCTOBER — 1966

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Helwan 0000 UT	Surface . . .	26	998m.b.	1000m.b.	994m.b.	26	21.5	24.3	19.7	26	15.0
	1000 . . .	26	119	140	89	3	21.0	22.0	20.0	3	16.1
	850 . . .	26	1517	1544	1474	26	15.5	19.1	11.4	23	2.0
	700 . . .	26	3132	3174	3079	26	5.8	8.7	1.1	11	-6.5
	600 . . .	26	4377	4427	4321	26	-1.9	1.6	-9.8	9	-14.3
	500 . . .	26	5802	5865	5724	26	-11.4	-8.1	-18.4	5	-23.0
	400 . . .	26	7472	7552	7362	26	-24.4	-21.8	-28.7	3	-33.1
	300 . . .	26	9504	9598	9376	26	-40.1	-37.7	-42.3	1	-40.4
	200 . . .	26	12152	12256	12025	26	-58.7	-54.4	-64.0	—	—
	150 . . .	26	13935	14030	13810	26	-63.8	-58.2	-69.0	—	—
	100 . . .	25	16404	16502	16280	25	-66.4	-62.7	-70.6	—	—
	70 . . .	22	18550	18700	18340	22	-64.8	-61.5	-68.6	—	—
	60 . . .	21	19522	19649	19375	21	-63.2	-57.0	-70.3	—	—
	50 . . .	19	20639	20778	20499	19	-60.3	-56.0	-63.5	—	—
	40 . . .	18	22034	22170	21883	18	-58.2	-56.2	-60.8	—	—
	30 . . .	17	23856	23994	23691	17	-55.0	-50.4	-58.1	—	—
	20 . . .	15	26487	26616	26316	15	-49.4	-41.5	-56.0	—	—
	10 . . .	2	31175	31221	31129	2	-44.7	-41.5	-47.9	—	—
Aswan 0000 UT	Surface . . .	19	987m.b.	989m.b.	985m.b.	19	23.3	29.0	18.8	19	4.8
	1000 . . .	19	83	99	63	—	—	—	—	—	—
	850 . . .	19	1506	1542	1471	19	21.4	26.0	15.1	19	1.2
	700 . . .	19	3158	3204	3107	19	9.9	11.8	8.1	12	-6.0
	600 . . .	19	4412	4463	4369	18	0.4	4.4	-3.6	7	-8.8
	500 . . .	19	5851	5893	5800	18	-8.8	-6.2	-12.8	3	-21.1
	400 . . .	18	7545	7580	7502	18	-21.2	-17.4	-23.0	2	-31.8
	300 . . .	18	9599	9665	9546	18	-36.8	-33.2	-39.7	—	—
	200 . . .	15	12291	12371	12238	15	-55.5	-51.7	-58.6	—	—
	150 . . .	13	14081	14198	14010	13	-65.1	-62.2	-68.4	—	—
	100 . . .	11	16498	16626	16429	11	-72.4	-70.3	-74.4	—	—
	70 . . .	6	18594	18660	18531	6	-68.1	-66.4	-71.0	—	—
	60 . . .	4	19550	19595	19487	4	-63.6	-60.6	-66.6	—	—
	50 . . .	4	20626	20733	20394	4	-60.8	-59.1	-63.5	—	—
	40 . . .	4	22082	22144	21991	4	-56.9	-56.7	-57.0	—	—
	30 . . .	4	23936	24004	23821	4	-54.6	-54.0	-55.5	—	—
	20 . . .	3	26537	26612	26422	3	-50.3	-48.4	-53.5	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—

N — Number of cases the element has been observed during the month.

\* The atmospheric pressure corrected to the elevation of the radiosonde station.

**Note :** Climatological upper air data for Mersa Matruh & Aswan upper air stations at 0000 & 1200 U.T. for the first and at 1200 U.T. for the second, are missing, since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

## UPPER AIR CLIMATOLOGICAL DATA

**Table B1 (contd.)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

**OCTOBER — 1966**

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Helwan 1200 UT	Surface . . .	26	996m.b.	1000m.b.	994m.b.	26	30.8	33.9	26.1	26	10.8
	1000 . . .	26	108	140	86	1	33.1	—	—	1	6.5
	850 . . .	26	1526	1570	1499	26	17.3	22.7	10.9	25	4.4
	700 . . .	26	3150	3201	3089	25	7.1	11.2	1.0	12	— 6.5
	600 . . .	26	4398	4460	4316	25	— 0.5	2.5	— 4.4	6	—14.0
	500 . . .	26	5829	5907	5730	26	—10.3	— 6.1	—15.5	4	—22.0
	400 . . .	26	7507	7610	7386	26	—23.1	—19.8	—29.0	3	—34.9
	300 . . .	26	9549	9677	9403	26	—38.8	—36.5	—41.7	2	—44.0
	250 . . .	25	12214	12355	12095	25	—57.1	—52.7	—61.5	—	—
	200 . . .	25	14012	14135	13913	25	—62.1	—56.7	—63.2	—	—
	150 . . .	23	16501	16626	16399	23	—65.1	—62.2	—68.2	—	—
	100 . . .	21	18672	18800	18500	21	—63.0	—58.8	—66.5	—	—
	70 . . .	19	19642	19765	19551	19	—58.8	—57.4	—63.2	—	—
	60 . . .	19	20786	20917	20687	19	—58.0	—54.8	—60.6	—	—
	50 . . .	15	22189	22286	22083	15	—55.1	—52.1	—59.0	—	—
	40 . . .	13	24045	24140	23913	13	—51.6	—48.3	—55.2	—	—
	30 . . .	11	26701	26823	26537	11	—48.0	—44.5	—58.3	—	—
	20 . . .	4	31384	31476	31037	4	—43.1	—36.0	—56.5	—	—
	10 . . .										

N — Number of cases the element has been observed during the month.

\* The atmospheric pressure corrected to the elevation of the radiosonde station.



**Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE;  
THE HIGHEST WIND SPEED IN THE UPPER AIR**

**OCTOBER — 1966**

Station		Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest			Altitude (gpm)	Pressure (mb.)	Direction (000-360)°	Speed in Knots
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)				
0000 UT	Mersa Matruh(A)	(N)	(N)	(N)							(N)	(N)	(N)										
	Helwan . . . .	4070 (26)	624 (26)	-10.8 (8)	4630	586	—	3280	637	- 3.9	13836 (25)	155 (25)	-64.8 (25)	16050	106	-68.8	12080	204	-60.5	13330	163	270	138
	Aswan . . . A)	4518 (19)	592 (19)	-10.0 (8)	5000	558	—	4030	618	- 6.8	15415 (10)	121 (10)	-71.5 (10)	16429	100	-73.5	14160	149	-66.0	13210	—	240	91
1900 UT	Mersa Matruh(A)	(N)	(N)	(N)							(N)	(N)	(N)										
	Helwan . . . .	4246 (26)	612 (26)	-11.3 (9)	4850	567	—	3300	681	-13.9	13970 (23)	154 (23)	-63.8 (23)	16470	100	-68.2	11920	208	-54.6	12980	174	250	142
	Aswan . . . (A)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

**Table. B 3 (contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN—OCTOBER 1966**

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)*																				Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)					
		345		015		045		075		105		135		165		195		225		255					285		315		
		/		/		/		/		/		/		/		/		/		/					/		/		
		014	044	074	104	134	164	194	224	254	284	314	344																
N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)				
	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m				
U.T. 0000	Surface	6	6	8	6	5	11	3	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	26	6			
	1000	0	—	0	—	2	14	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	11			
	850	6	16	6	14	1	13	1	8	0	—	0	—	1	8	1	8	0	—	0	—	1	20	9	13	0	26	14	
	700	6	16	0	—	1	8	0	—	0	—	0	—	0	—	1	22	1	4	3	14	6	16	8	19	0	26	16	
	600	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	18	6	15	6	18	9	23	0	26	19	
	500	1	17	0	—	0	—	0	—	0	—	0	—	0	—	1	8	3	21	10	24	6	27	5	27	0	26	24	
	400	1	14	0	—	0	—	0	—	0	—	0	—	0	—	2	14	7	30	8	30	5	33	3	17	0	26	27	
	300	1	43	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	35	13	39	5	31	2	50	0	26	38	
	200	1	17	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	48	17	46	3	45	1	46	0	26	45	
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	36	16	43	1	34	0	—	0	23	41	
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	2	26	10	35	1	36	1	15	0	0	15	33
	70	0	—	0	—	0	—	3	31	1	5	0	—	0	—	1	10	0	—	2	22	0	—	0	—	0	0	7	22
	60	0	—	1	19	0	—	0	—	0	—	0	—	1	12	0	—	0	—	2	42	2	6	0	—	0	0	6	21
	50	0	—	0	—	1	22	1	43	0	—	0	—	0	—	0	—	0	—	0	—	1	5	2	10	0	0	5	18
40	0	—	0	—	0	—	1	22	0	—	0	—	0	—	0	—	0	—	1	6	0	—	1	4	0	0	3	11	
30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	12	0	—	0	0	2	12	
20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	23	0	—	0	—	0	—	0	—	0	0	1	23	
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
U.T. 1200	Surface	8	8	6	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	6	1	8	6	7	0	26	8	
	1000	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	7
	850	4	18	7	14	4	10	1	10	0	—	0	—	0	—	0	—	0	—	2	12	2	5	6	12	0	26	12	
	700	7	20	1	15	0	—	0	—	1	1	1	3	0	—	2	26	3	20	3	10	5	12	3	18	0	26	16	
	600	2	25	0	—	0	—	0	—	0	—	2	4	1	12	2	14	4	18	3	12	8	15	4	24	0	26	16	
	500	3	24	0	—	1	4	0	—	0	—	0	—	0	—	2	10	5	21	5	20	8	23	2	20	0	26	20	
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	5	23	6	31	9	34	4	21	0	26	29	
	300	2	14	0	—	0	—	0	—	0	—	0	—	0	—	1	26	5	45	10	37	5	28	2	12	0	26	32	
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	14	52	9	33	1	17	0	25	43	
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	27	17	46	1	43	1	21	0	23	41	
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	22	2	32	5	29	7	31	4	28	0	—	0	19	29	
	70	0	—	0	—	1	5	2	20	1	21	0	—	0	—	0	—	3	20	3	12	1	5	0	—	0	0	11	15
	60	1	25	0	—	0	—	1	17	2	10	1	28	0	—	0	—	1	5	2	14	2	18	0	—	0	0	10	15
	50	1	7	0	—	0	—	1	15	2	20	3	12	0	—	0	—	0	—	1	14	0	—	0	—	0	0	8	14
40	0	—	0	—	0	—	1	10	0	—	1	10	1	22	0	—	0	—	1	11	0	—	1	13	0	5	13		
30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	12	1	12	1	14	0	3	13		
20	0	—	0	—	0	—	0	—	0	—	0	—	1	18	0	—	0	—	1	17	0	—	0	—	0	2	18		
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3 (contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — OCTOBER 1966**

Time	Pressure Surface. Millibar	Wind between specified ranges of direction (000—360)*																Number of calm winds	Total number of observations (TN)	Mean scalar <sup>1</sup> wind speed (knots)									
		345		015		045		075		105		135		165		195					225		255		285		315		
		/		/		/		/		/		/		/		/					/		/		/		/		
		N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)	N	(ff)				N	(ff)	N	(ff)	N	(ff)	N	(ff)	
		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m				
0000 U.T.	Surface . . . .	8	10	7	8	1	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	11	1	19	9	
	1000 . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	850 . . . .	1	5	3	13	2	12	1	9	0	—	1	15	1	11	1	5	0	—	2	7	1	5	2	14	0	15	10	
	700 . . . .	0	—	2	10	2	12	0	—	0	—	0	—	1	14	2	21	1	19	2	8	2	10	1	4	0	13	12	
	600 . . . .	2	4	0	—	0	—	0	—	0	—	0	—	1	19	1	20	2	18	5	14	0	—	1	16	0	12	14	
	500 . . . .	1	15	0	—	1	12	0	—	0	—	0	—	0	—	0	—	2	24	4	20	2	12	0	—	0	10	18	
	400 . . . .	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	—	1	40	3	23	2	17	1	8	0	8	20	
	300 . . . .	0	—	1	10	0	—	0	—	0	—	0	—	0	—	0	—	1	66	5	26	0	—	0	—	0	7	29	
	200 . . . .	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	43	3	58	1	48	1	52	0	7	51	
	150 . . . .	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	44	2	56	0	—	0	—	0	6	48	
	100 . . . .	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	1	11	3	26	1	11	0	—	0	6	18	
	70 . . . .	0	—	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	7
	60 . . . .	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	7
	50 . . . .	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	8
	40 . . . .	0	—	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	7
	30 . . . .	0	—	0	—	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	12
	20 . . . .	0	—	0	—	0	—	0	—	1	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	25
	10 . . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

N. — The number of cases the wind has been observed from the range of direction during the month.

TN — The total number of cases the wind has been observed for all directions during the month.

## REVIEW OF AGRO — METEOROLOGICAL STATIONS

EL KASR — OCTOBER 1966

This month was warmer and less rainy than normal. Mean daily air temperature at 2 metres height above ground was  $1.1^{\circ}\text{C}$  above normal while total rainfall was 8.0 mm. below normal. The month was characterised by 5 heat waves with peaks on 3rd, 6th, 10th, 19th and 28th. The first one was the most excessive ; it occurred between 2nd and 4th and was associated with the absolute maximum air temperature and the lowest relative humidity of the month.

The extreme maximum soil temperatures at depths between 0.3 and 5 cm. inclusive, and at 20 cm. depth were higher than the corresponding values of October 1965 ; the maximum deviation was  $1.1^{\circ}\text{C}$  at 2 cm. depth. At 10, 50 and 100 cm. depths the extreme maximum soil temperatures were lower than the corresponding values of last October ; the maximum deviation was  $-0.4^{\circ}\text{C}$  at 50 and 100 cm. depths. The extreme minimum soil temperatures at depths between 0.3 and 100 cm. inclusive were higher than the corresponding values of October 1965 ; the maximum deviation was  $6.7^{\circ}\text{C}$  at 0.3 cm. depth.

Mean daily wind speed at 2 metres height was 0.7 m/sec. lower than the corresponding value of last October. Mean daily Piche evaporation was 4.0 mm. lower while mean daily pan evaporation was 0.15 mm. higher than the corresponding values of October 1965. Total actual duration of bright sunshine was 53.7 hours higher than the corresponding value of last October.

TAHRIR — OCTOBER 1966

This month was warmer and more humid than October 1965. Mean daily air temperature and relative humidity at 2 metres height above ground were  $1.8^{\circ}$  and 5% respectively higher than the corresponding values of last October. During the first three weeks of the month warm weather prevailed. The absolute maximum air temperature of the month as well as the lowest relative humidity occurred on the 4th. Cooler weather prevailed between the 22nd and the 30th.

The extreme maximum soil temperatures in the dry field for the depths between 0.3 and 5cm inclusive were higher than the corresponding values of October 1965 by amounts ranging between  $1.0^{\circ}\text{C}$  at 1cm depth and  $0.2^{\circ}\text{C}$  at 2 cm depth. At deeper layers the extreme maxima were lower than the corresponding values of last October by values ranging between  $1.6^{\circ}\text{C}$  at 20 cm depth and  $0.2^{\circ}\text{C}$  at 100 cm depth. The extreme minimum soil temperatures at different depths were higher than the corresponding values of October 1965 by values ranging between  $5.3^{\circ}\text{C}$  at 1 cm depth and  $2.1^{\circ}\text{C}$  at 100 cm depth.

Mean daily wind speed at 2 metres height above ground was 0.5 m/sec. lower than the corresponding value of last October. The mean daily values of Piche evaporation and pan evaporation were 1.2 and 0.08 mm respectively lower than the corresponding values of October 1965. Total actual duration of bright sunshine was 50.4 hours higher than the corresponding value of last October.

### GIZA — OCTOBER 1966

The month was warmer than normal. Mean daily air temperature at 2 metres height above ground was  $1.2^{\circ}\text{C}$  above normal, while mean daily relative humidity was equal to its normal value. The daily maximum values of air temperature were generally above normal. The month was characterised by three heat waves with peaks on 4th, 11th and 20th. The first heat wave was the most pronounced and was associated with the absolute maximum air temperature for the month on the 4th. The absolute minimum air temperature at 5 cm height in the dry and grass fields were  $6.4^{\circ}\text{C}$  and  $4.9^{\circ}\text{C}$  respectively higher than the corresponding values of October 1965.

The extreme maximum soil temperatures at 5 and 100cm depths in dry field were equal to the corresponding values of last October. At other depths the extreme maximum soil temperatures were lower than the corresponding values of October 1965, the maximum deviation was  $-9.9^{\circ}\text{C}$  at 2 cm depth. The extreme minimum soil temperatures were all higher than the corresponding values of last October; the maximum deviation was  $6.8^{\circ}\text{C}$  at 2cm depth.

The mean daily wind speed at 2 metres height was 0.4 m/sec. higher than the corresponding value of October 1965. The mean daily values of Piche, pan evaporation and potential evapotranspiration were higher than the corresponding values of last October by 1.6, 1.42 and 0.2 mm respectively. Total actual duration of bright sunshine was 37.2 hours higher than the corresponding value of October 1965.

### KHARGA — OCTOBER 1966

The month was warm as compared with the normal value of air temperature for Kharga during October. Mean daily air temperature at 2 metres above ground was  $2.1^{\circ}\text{C}$  above normal. The month was characterised by two prolonged moderate heat waves. The first one prevailed during the period 3rd to 12th which was associated with the absolute maximum air temperature for the month on the 5th. The second heat wave prevailed during the period 14th to 24th with its peak on 20th.

The extreme maximum soil temperature at 1cm. depth was  $3.3^{\circ}\text{C}$  higher than the corresponding value of October 1965. At other depths between 0.3 and 20 cm. inclusive the extreme maximum soil temperatures were lower than the corresponding values of last October; the maximum deviation was  $-1.4^{\circ}\text{C}$  at 10 cm. depth. At 50 and 100 cm. depths the extreme maxima were equal to the corresponding values of October 1965. The extreme minimum soil temperatures at depths between 0.3 and 50 cm. inclusive were higher than the corresponding values of last October; the maximum deviation was  $3.7^{\circ}\text{C}$  at 0.3 cm. depth. The extreme minimum soil temperature at 100 cm. depth was  $0.3^{\circ}\text{C}$  lower than the corresponding value of October 1965.

Mean daily wind speed at 2 metres above ground was 1.2 m/ sec. higher than the corresponding value of last October. Mean daily values of piche evaporation and pan evaporation were higher than the corresponding values of October 1965 by 8.7 and 4.03 respectively. Total actual duration of bright sunshine was only 0.2 hours lower than that of last October.

**TABLE C 1.—AIR TEMPERATURE AT 2 METRES ABOVE GROUND  
OCTOBER — 1966**

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr . . . . .	28.5	17.8	23.2	21.0	25.4	24.0	24.0	24.0	24.0	24.0	18.6	8.0	0.4	0.0	0.0	0.0
Tahrir . . . . .	31.4	16.9	23.4	20.7	26.4	24.0	24.0	24.0	24.0	23.9	15.0	9.0	2.6	0.0	0.0	0.0
Giza . . . . .	31.7	17.6	24.2	22.1	26.5	24.0	24.0	24.0	24.0	24.0	18.0	9.9	2.1	0.0	0.0	0.0
Kharga . . . . .	34.9	20.9	28.0	25.7	30.4	24.0	24.0	24.0	24.0	24.0	23.0	16.9	8.3	2.2	0.0	0.0

**TABLE C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 2 METRES ABOVE GROUND,  
ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND  
OVER DIFFERENT FIELDS**

OCTOBER — 1966

STATION	Max. Temp. at 2 metres (°C)				Min. Temp. at 2 metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr . . . . .	35.2	3	25.8	24	23.2	12	14.7	29	12.2	30	—	—
Tahrir . . . . .	35.3	4	28.4	24	19.6	12	14.5		12.9	3	—	—
Giza . . . . .	34.2	4	28.1	27	19.8	12	14.3	25	11.7	25	9.6	25
Kharga . . . . .	39.2	5	29.2	25	26.0	8	14.8	25	12.8	25	—	—

**TABLE C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE  
HUMIDITY, VAPOUR PRESSURE AT 2 METRES, EVAPORATION & RAINFALL  
OCTOBER — 1966**

STATION	Soar+Sky) Radia- tion gm. cal/cm <sup>2</sup>	Duration of Bright Sunshine (hours)			Relative Humidity %						Vapour pressure (mms)						Evapora- tion(mms)		Rainfall (mms)			
		Total Actual monthly	Total Possible monthly	%	Duration in hours		Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall- in one day	Date	
					90%	> 80%																
El Kasr	338.7	306.0	354.2	86	—	—	73	62	37	4,10	15.9	16.4	21.9	10	9.6	10	7.9	7.78	3.1	2.8	23	
Tahrir	421.7	305.6	354.6	86	7.3	11.6	72	42	23	4	14.9	13.2	20.0	31	9.1	4	6.1	6.37	Tr.	Tr.	24	
Giza.	423.3	305.3	354.9	86	3.6	8.2	65	38	24	22	14.0	12.1	18.5	8	9.0	19	11.7	7.78	Tr.	Tr.	23	
Kharga	420.0	336.6	359.0	93	0	0	33	22	8	10	8.8	8.5	14.8	31	3.8	10	34.2	17.48	0.0	0.0	—	

**Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms)  
IN DIFFERENT FIELDS**

**OCTOBER — 1966**

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)										Extreme soil temperature (°C) in grass field at different depths (cms.)									
		0.3	1	2	5	10	20	50	100	200	300	0.3	1	2	5	10	20	50	100	200	300
El Kasr . . .	H	43.6	39.3	39.0	35.6	31.9	28.4	26.3	25.8	24.9	—	—	—	—	—	—	—	—	—	—	—
	L	17.5	18.5	18.4	17.5	19.2	21.8	23.8	24.7	24.5	—	—	—	—	—	—	—	—	—	—	—
Tahrir . . .	H	48.2	46.7	42.8	41.1	36.1	31.6	29.3	29.6	29.2	28.3	—	—	—	—	—	—	—	—	—	—
	L	15.0	15.7	15.4	18.7	20.8	24.1	26.1	27.3	27.9	27.8	—	—	—	—	—	—	—	—	—	—
Giza . . . .	H	49.8	45.5	43.1	39.2	33.9	31.0	31.2	31.0	29.0	27.4	33.4	29.4	27.3	27.0	26.1	25.3	26.1	25.8	25.0	—
	L	15.5	17.0	18.4	20.2	24.2	27.2	28.3	29.0	28.5	27.2	16.2	16.6	17.6	19.6	20.7	22.4	24.0	24.3	24.6	—
Kharga . . .	H	—	—	44.4	41.0	36.2	33.8	33.5	32.8	31.3	30.1	—	—	—	—	—	—	—	—	—	—
	L	—	—	17.9	20.6	25.0	27.8	30.0	31.0	31.0	30.0	—	—	—	—	—	—	—	—	—	—

**Table C 5.—SURFACE WIND**

**OCTOBER — 1966**

STATION	Wind Speed m/sec at 2 metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥ 10 knots	≥ 15 knots	≥ 20 knots	≥ 25 knots	≥ 30 knots	≥ 35 knots	≥ 40 knots	Value knots	Date
El Kasr . . .	2.8	2.1	3.6	—	—	—	—	—	—	—	—	—
Tahrir . . . .	2.2	1.6	3.1	27	9	0	0	0	0	0	24	11
Giza . . . . .	2.3	1.9	2.9	31	10	0	0	0	0	0	24	12
Kharga . . .	4.8	4.0	5.7	29	19	8	0	0	0	0	33	9

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*First Under-Secretary of State*

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*Chairman of the Board of Directors*